

(0016) Claims

1. A method of manufacturing a split ring face seal made from fiber material including the steps of:

forming a blank of fibrous material;

splitting the blank along a planar surface to form two halves;

polishing the planar surface on each of said halves;

forming threaded holes into the blank and mounting the blank to a lathe using said threaded holes;

turning a seal face onto the blank;

polishing the seal face.
2. The method of claim 1 wherein the step of polishing includes rotating the blank in a clockwise and then in a counter clockwise direction while polishing the seal face.
3. The method of claim 1 wherein the step of polishing includes rotating the blank in a counter clockwise and then in a clockwise direction while polishing the seal face.
4. A boat drive line having a split ring face seal including;

a split ring face seal of self lubricating fiber material formed from two half rings joined at a polished surface;

a seal face on said split ring face seal said seal face and said split ring face seal having an inside diameter and an outside diameter;

a drive shaft having an outside diameter smaller than the inside diameter of the seal face and passing through the inside diameter of the seal face;

a plurality of raised fiber bearing surfaces integrally formed on the inside diameter of the split ring face seal;

said plurality of raised fiber bearing surfaces forming a gapped inner most diameter smaller than said inside diameter of said split ring face seal surface but larger than said outside of said drive shaft such that relative movement between said split ring face seal and said drive shaft can cause at least one of said raised fiber bearing surfaces to contact the outside diameter of said drive shaft, and wherein said drive shaft powers a propeller.

5. The boat drive line of claim 4 wherein a rubber thrust boot surrounds said drive shaft and holds said split ring face seal in compression against a ring fixed to a stern tube and wherein said split ring face seal is rotatable with said drive shaft.

6. The boat drive line of claim 5 wherein said thrust boot is pinned to said split ring face seal.

7. The boat drive line of claim 5 wherein said split ring face seal is formed from a blank of self lubricating fiber material and wherein said seal face is formed on said blank by rotating said blank on a lathe in a clockwise and then in a counter clockwise direction while applying polishing grit to said seal face.

8. A drive line having a split ring face seal including;
a split ring face seal of self lubricating material formed from two half rings joined at least one polished surface;
a seal face on said split ring face seal, said seal face and said split ring face seal having an inside diameter and an outside diameter;
a rotatable drive shaft having an outside diameter and passing through the inside diameter of the seal face;
a plurality of raised fiber bearing surfaces integrally formed on the inside diameter of the split ring face seal such that relative movement between said split ring face seal and said

drive shaft can cause at least one of said raised fiber bearing surfaces to contact the outside diameter of said drive shaft.

9. The drive line of claim 8 wherein said split ring face seal is mounted for rotation with said rotatable drive shaft.

10. The drive line of claim 9 wherein a thrust boot is mounted on said rotatable drive shaft and holds said split ring face seal in sealing engagement with a fixed ring.

11. The drive line of claim 10 wherein said seal face and a face on said fixed ring form a seal holding fluid in a void around said drive shaft.

12. The boat drive line of claim 10 wherein said thrust boot is pinned to said split ring face seal and is compressed between a clamp on said drive shaft and said fixed ring.

13. The boat drive line of claim 12 wherein said split ring face seal is machined from a blank and wherein said seal face is formed on said blank by rotating said blank on a lathe in a clockwise and then in a counter clockwise direction while applying polishing grit to said seal face.

14. The drive line of claim 11 wherein said drive shaft passes through a stern tube and is connected to a propeller.